

⇒ DB support Multiple view

user مسجله يطوع data

student | ستون | ديتره | ...

user view الى خدمه

view: subset of database

⇒ DB allow Multibuser access single db. base

DBMS must contain concurrency control

التي ان لا يتطابق اكثر من user يدخلوا data فترقى

الوقت ان يتطابق conflict

Software to ensure that several users

trying to update the same data

in a controlled manner result of updates

is correct.

ان كان حاسوبه فلو احب فلو من خارج

عائز انتم مجموعه اوامر transaction

نقد مجموعه اوامر

مجموعة من اوامر اوامر

مجموعة من اوامر اوامر

مجموعة من اوامر اوامر

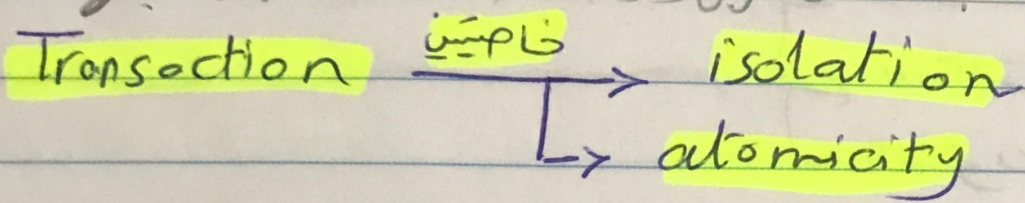
Isolation Property → transaction

atomicity property transaction

لأننا نعتقد كل الأمر حتى لا نأخذ شيئاً خارجاً

Property ensures that all database operations in a transaction are executed or none

مستقر + يجب قول الرجل والوقت transaction قبل اعتبارنا



لو حصل خطأ فأنه لا شيء transaction تعلق

Actors of the scene

DBA → responsible for access to database

مسئول التتبع والاطلاع على ما يجري في النظام

DBA DBA

DBA → sw, hardware resources as needed

محتاج التطبيق sw, antivirus

محتاج hard disk

→ accountable for problems

مسئول على أي مشاكل تحدث

security breaches poor system response

موضوع الدرس:

التاريخ:

Data base Designer:

• يحدد البيانات التي ستخزن في النظام

• يحدد ما وظيفه Data base

• هي هيكلية من البيانات

courses

lectures

students

• يحدد structure المناسب للـ data

• يتعامل مع users يحدد مع طلاب / مع ركاتره مع مستوي

• يحدد المطلوب

DBA:

يعرف النظام
يعرف النظام في أي disk / server
واحدة واحدة من hard disk

Data Model: collection of concepts that ~~can~~ can be used to describe the structure of a database

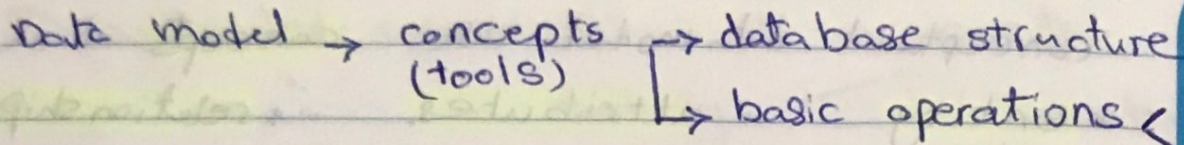
structure of database we mean

the data type, relations, constraints

↓
representing in model.

تمثيله في النموذج.

+ Data Model include set of **basic operations** for specifying retrievals (queries) and updates (insert / delete / update)



categories Data model على

concepts that use to describe db structure

(1) High level Data Model (conceptual data model)

is high level programming language

used by users

concepts that are close to the many users

(2) low level (physical data model)

concepts that describe details how data is stored on computer storage media

for computer specialist not for end users

(3) representational (implementation data model)

* easily understood by end users

* way data is organized in computer storage

* details of data storage

* hide details of data storage

التاريخ:

موضوع الدرس:

Conceptual data model use concepts such as

* entity * attributes * relationships

→ (employee) entity

id attribute (project) entity

- entity: real world object of employee

- attribute

entity (employee) attributes

represent some property of interest
describe an entity

relationship → among two or more entities

relationship between (employee + project)

student university

Data base

→ entity

student name

courses

section

Grade

attributes

professor Data base

→ entity

name

sections

lectures

→ attributes

relation between → student DB + professor DB

التاريخ:

موضوع الدرس:

Data model: collection of concepts

entity

relationship

attributes

describe structure of DB

relations

data type constraints

مثال: الحساب

Conceptual Data Model represent

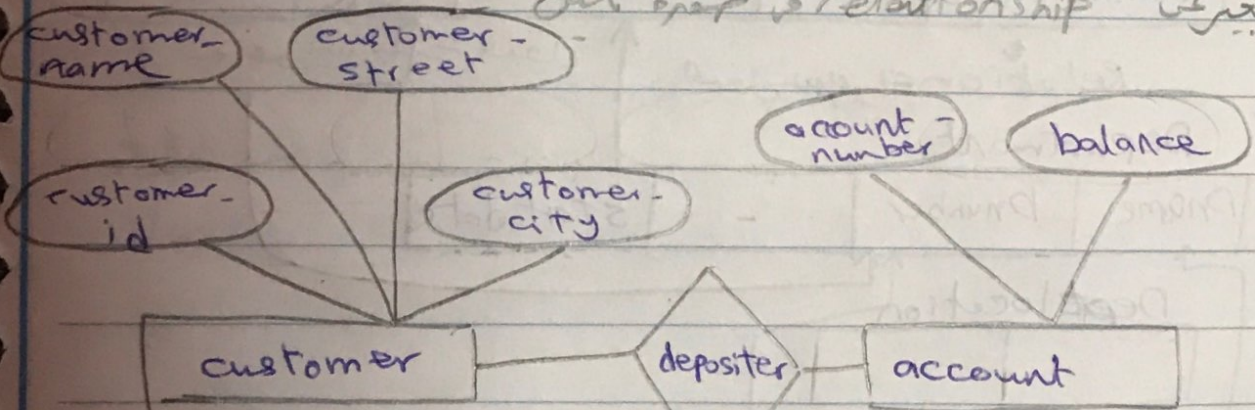
Entity - Relationship model.

rectangle: entity

oval: attribute

diamond: relationship

ERD



End user also use model

Conceptual Data model

account & customer in relationship

account & deposit in customer

relationship between two entities

التاريخ

موضوع الدرس

Representational Implementation Data Model

used most in traditional commercial DBMS

Representation Data model في DBMS

Relational data model : relational DB model
representational DB category
network model
hierarchical models



Relational Data model structure of Data

relation + entity
Employee جدول اسم employee
relation + entity

Fname	language	Salary	Bdate	Sex	Super son	Son
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Relation

Relationship

Department

Dname	Dnumber	- -	start date
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Dept location

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Relation

Relationship

relation

entity